VF BOILERS

Hot Water Supply And Hydronic Heating Boilers

A.O.Smith

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The Art Of Flexibility

The new VF Series variable fire copper boilers are designed with one thing in mind: to provide the best value to the customer. As a result, we're proud to introduce a more installation friendly line that works well in more applications and requires less maintenance.

The secret to the stunning performance of the VF Series is its flexibility. The VF is capable of firing from 100% to 25% or a 4:1 turndown ratio. The boiler's output is based strictly on the current system demand and required BTUs needed to maintain the desired system set point temperature. The VF's modulating capability is virtually limitless.

The VF Boiler sets a high efficiency standard by combining thermal efficiencies up to 88% with a smoother, more energy-efficient overall system operation.

VF

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THE ANATOMY OF GREAT PERFORMANCE

A

Combustion air intake – self adjusting-no air shutter required

B

EMC-5000 Modulating Control

C

Advanced pre-mix burner design precisely mixes air and gas prior to ignition for optimum performance, with low-NOx emissions (meets SCAQMD Rule 1146.2)

D

All non-heating surface heat exchanger components are outside and away from the combustion and flue collection areas; only the copper fin tubes are exposed to the products of combustion

E

Venturi-mixing gas/air ratio system works with variable speed blower to precisely mix gas and air throughout firing range, provides good operation with supply gas pressures down to 4˝ WC, and is self-adjusting for altitudes up to 6,000 feet all while providing low NOx emissions that meet or exceed the most stringent standards

F

Heavy-duty ASME 160 psi copper finned tube heat exchanger—Vertical, straight tube, multi-pass design surrounds the burner with a 360° wall of copper finned tubing, making the entire heat exchanger immune to thermal shock

G

The sealed heat exchanger flue collection system is constructed of AL29-4C stainless steel that is immune to corrosive flue gases

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Up To 88% Efficient, Hot Water Supply Boiler with Modulating Fire 4:1 Turndown

Hot Water Supply Applications:
VW-500 through VW-1000

Hydronic Heating Applications:
VB-500 through VB-1000

CATEGORY IV LISTED

PROFESSIONAL START-UP SERVICE FURNISHED

MEETS ASHRAE/IESNA 90.1-1999

LOW NOx OPERATION
- Meets or exceeds Texas and California SCAQMD Rule 1146.2 quality standards

OTHER VF™ BOILER FEATURES:
- ASME Pressure Relief Valve 125#
- Factory-Mounted Flow Switch
- Low Gas Pressure Switch
- All Bronze Factory Mounted Pump
  Standard on VW hot water supply models
- Digital Inlet/Outlet Temperature Read Out
- Manual Reset Hi-Limit

WARRANTY:
- 5 Year Limited Heat Exchanger Warranty on VW Models
- 10 Year Limited Heat Exchanger Warranty on VB Models

VF™ BOILER APPROVED OPTIONS*

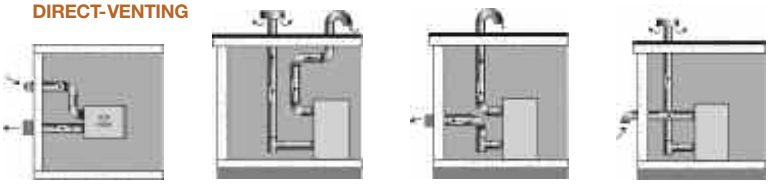
**For optional boiler equipment see VF Boiler VB and VW spec sheets.*

Versatile Multi-Venting Configurations

- Two-pipe direct-venting vertical and /or horizontal sidewall, with all combustion makeup air drawn from outside the building

70 Equivalent Feet Exhaust
70 Equivalent Feet Intake
90 Degree Elbows = 10 Feet
45 Degree Elbows = 5 Feet
Boot Tee = 5 Feet

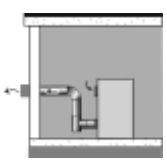
DIRECT-VENTING



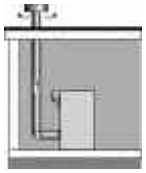
- Standard-venting, vertical or horizontal sidewall

100 Equivalent Feet Max
90 Degree Elbows = 10 Feet
45 Degree Elbows = 5 Feet
Boot Tee = 5 Feet

SIDEWALL VENTING



CONVENTIONAL VENTING



Please consult latest edition of the Installation Manual for detail venting information and maximum/minimum venting distances.

SHORT TRIM

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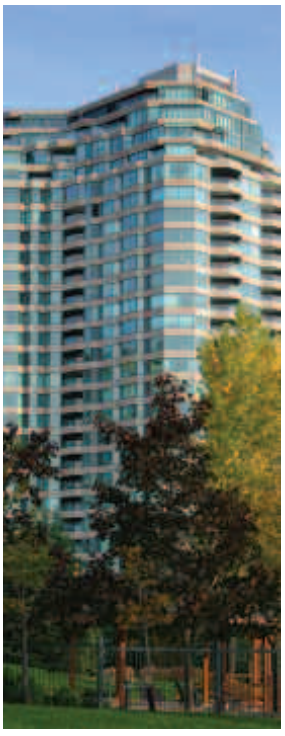
SHORT TRIM

Advanced EMC-5000 Modulating Control

The EMC-5000 Modulating Control provides true self-diagnostic capabilities to eliminate guesswork in troubleshooting. It is the most advanced boiler control we have ever offered, setting a new standard for copper boilers.

EMC-5000 Modulating Control

- Modulates the boiler to maintain tank temperature within +/- 1 degree
- Infinite boiler output control between 100% to 25% fire
- LED read out – provides current boiler status in plain English with help screens to assist should a fault occur
- Controls and monitors every electrical boiler function with onboard diagnostics



Small Size And Easy Service

Small Footprints, Zero Clearance To Combustibles On Sides of Unit

- Compact design, lightweight copper heat exchanger makes VF Series easier to move and install in limited spaces – perfect for retrofits
- Fits in an elevator, ideal for boiler rooms with limited access—only 30˝ wide
- Multiple boiler systems provide increased turndown and even smoother, more efficient system operation
- 4 boilers w/4:1 Turndown =16:1 total system turndown

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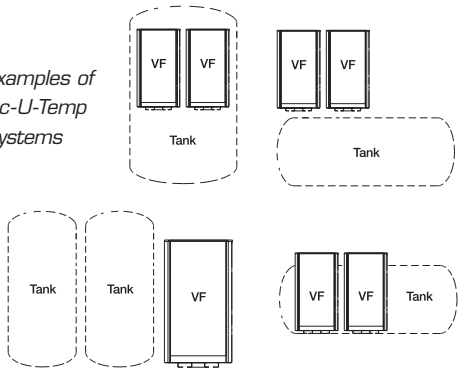
Model No.	Input Rating Btu/hr	Output Rating Btu/hr	Gallons Per Hour Recovery Temperature Rise -°F			Height Inches	Width Inches	Depth W/ Pump Inches	Depth W/O Pump Inches	Approx. Shipping Weight (Lbs.)
			40	100	140					
VW/ VB-500	500,000	421,500	1,268	507	362	56	30	37.5	30	450
VW/ VB-750	750,000	633,750	1,901	761	543	62	30	37.5	30	575
VW/ VB-1000	1,000,000	845,000	2,535	1,014	724	71	30	37.5	30	750

Examples of Ac-U-Temp Systems



Ac-U-Temp — A total hot water supply system using VF Series Boilers

With Ac-U-Temp, A. O. Smith makes it as easy as possible to install a complete packaged hot water supply system, combining 88% efficient VF Series Boilers with A. O. Smith storage tanks. A. O. Smith offers a wide range of available boiler/storage tank combinations using the Ac-U-Temp system. There are a number of standard boiler and tank configurations with tanks up to 1,000 gallons, or we can custom design and build an Ac-U-Temp system with tanks up to 10,000 gallons to meet your specifications and application requirements. Ac-U-Temp systems are shipped fully assembled, pre-piped and pre-wired. All the installer has to do is make the flue, gas, electrical and water connections, so field errors are minimized.

Consult your A. O. Smith representative for more information on the wide range of available boiler/storage tank combinations using the Ac-U-Temp system.

For complete specifications on the VF Series, consult the specification sheets at **www.hotwater.com** or contact your local A. O. Smith sales representative.

A.O.Smith

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www.hotwater.com

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